

ABSTRACT

A thin-film opto-electronic device on a conductive silicon-containing substrate includes a sequence of layers. The layers include a layer of a porous medium preferably a porous silicon, on a substrate. The porous layer has both light diffusing and light reflecting properties. In addition, a non-porous layer is located on said porous silicon layer, with at least one first region and at least one second region being in said non-porous layer. The first region is of a first conductivity type acting as a light absorber and the second region has a conductivity of a second type, different from said first conductivity type. The sequence of layers is such that optical confinement is realised in the device.